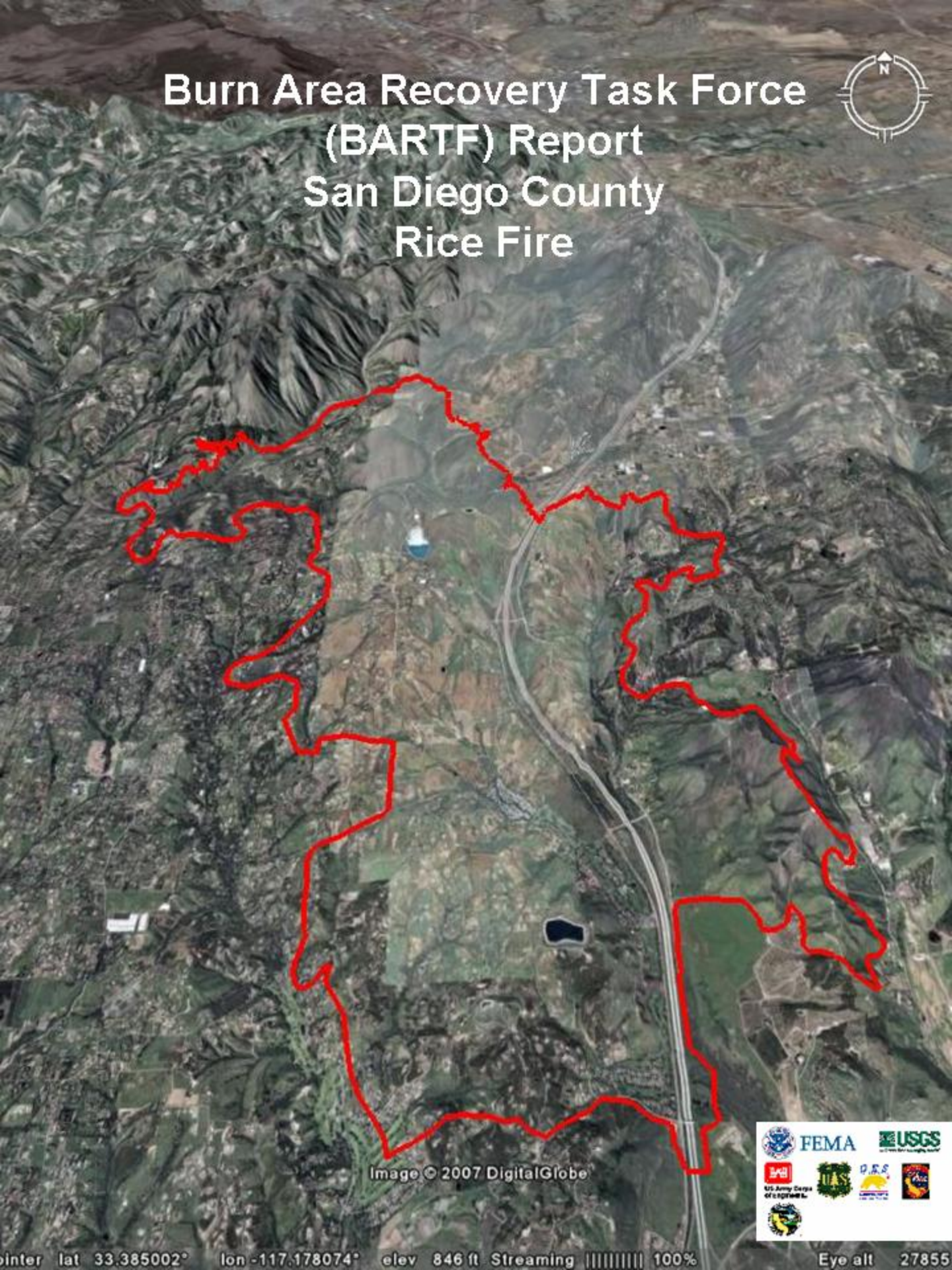
# Burn Area Recovery Task Force (BARTF) Report
# San Diego County
# Rice Fire



# Burn Area Recovery Task Force (BARTF) Report
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## Executive Summary

The Rice Fire burned 9,472 acres in the northwestern section of San Diego County in and around the unincorporated community of Fallbrook partially straddling both the Santa Margarita River/Sandia Canyon and San Luis Rey River watersheds. Significant findings are summarized as follows:

- Twelve residences and two businesses are located in drainages below steep burned slopes, which are eroding, or are located adjacent to creek channels in the burn area, and are at risk from rock falls and mudslides, or flooding and debris flows.
- State Highway 15 and County owned roadways such as Mission Road, Old Highway 395, Stewart Canyon Road, and Pankey Road may be at risk from debris flow and flooding in low lying areas.
- Remaining unburned structures at the mobile home park at 3090 Reche Road are at high risk from flooding and debris flow.
- Soil resources and water quality are at risk from erosion and hazardous materials from burned structures. Notably, 180 structures in a trailer park and two chlorine stations were burned. Health and safety are also directly at risk from hazardous materials.
- Archeological sites, ten sensitive species of wildlife including riparian species, and four sensitive species of plants have been identified in Rice Fire burn area (see Biological Appendix).
- Ten sensitive species of wildlife including two aquatic species, and four sensitive species of plants have been identified in the burn area.

## Purpose

The Rice Fire is one of the numerous Southern California wildfires included in the Presidential Disaster Declaration DR-1731-CA. This BARTF report will identify and prioritize values at risk and recommended emergency protective measures and hazard mitigation projects including post-fire flooding, erosion, and debris flow hazards. This report will also identify gaps in project needs and funding, identify proposed funding sources for projects, and identify potential issues related to recovery.

Burned Area Emergency Response (BAER) operations were previously conducted to independently discover potential values at risk and prioritize post-fire damage prevention and mitigation efforts.

## Introduction

The Rice Fire burned 9,472 acres in and around the northwestern San Diego County unincorporated community of Fallbrook. There were 206 structures lost to this fire. The Santa Margarita River/Sandia Canyon and San Luis Rey River are the watersheds partially affected by the burn area.

The burn area contains near-urban areas that would be considered wildland-urban interface (WUI). The area also contains large amounts of agricultural vegetation including floricultural species, avocado, citrus, and small amounts of other agricultural resources.

The intensity of the fires burned off vegetation and may have created hydrophobic soils. Hydrophobic soils are when waxes and oils vaporize from plants and condense into the soil creating a water repellent surface. Due to the loss of vegetation and creation of hydrophobic soil conditions, runoff is expected to be higher than background conditions until vegetation is re-established and the hydrophobic soil conditions abate. Variable, but predominantly high, hydrophobicity was measured in the moderately to severely burned areas of the fire. Accelerated runoff and erosion, especially in the severely burned areas and the most errodible soils, is expected to result in higher than usual peak flows along stream channels during rain storms.

The "bulking" by sediment can be extremely important during the first post-winter period and will not only result in higher flood flows but also may contribute to the obstruction of existing drainage systems. Residences and businesses along Stewart Canyon Creek are below burned watersheds and are at a higher risk of flood and sediment damage until vegetation is re-established. Kendall Farms is located on the watershed of Stewart Canyon Creek. Farm staff reported 70 percent of their crops were lost to the fire.

Environmental permits may be required for many of the proposed projects identified in the BARTF Report. Many of these proposed projects can be completed under emergency conditions, or under the waiver process identified in State Executive Order (S-13-07). Projects that do not fall under these classifications would need to follow the regular permit process. See the attached "Environmental Permitting Requirements" Appendix for an explanation of the required permits and the waiver process.

# *Lower San Luis Rey River Watershed*

## Background

- Red Mountain Reservoir is potentially at risk of fouling by watershed runoff.
- Hazardous materials in burned chlorine stations, mobile homes, and other structures are a risk to health and safety, and to water and soil resources.

- Unburned structures at the mobile home park at 3090 Reche Road are at high risk from flooding and debris flow.
- Residences and businesses located in drainages below steep, burned slopes have been identified in the BAER report and are at risk from rock falls and mudslides.
- Residences and businesses located adjacent to creek channels identified in the BAER report are at risk from flooding and debris flows.
- State Highway 15 is at risk from debris flow and flooding.
- County owned roadways such as Mission Road, Old Highway 395, Stewart Canyon Road, and Pankey Road may be subject to inundation in some areas.

## Analysis

- High hydrophobicity of the soil and slopes prone to erosion characterize the small, but completely burned, watershed surrounding Red Mountain Reservoir. The clean municipal water supply could be fouled by excess runoff and sediments that may clog and overwhelm the drainage system.
- Burned chlorine stations, mobile homes, and other structures contain hazardous materials that are an environmental health and safety issue and threaten water quality and soil resources.
- Unburned structures at the mobile home park at 3090 Reche Road are at high risk from flooding and debris flow as identified on the Rice Post-Fire Hazard Awareness Map.
- Debris flow and flooding potential threatens State Highway 15 near the south end of the Rice Fire burn area. Sedimentation may cause clogging at the various drainage control culverts.
- Structures and county roads located below drainages of steep burned slopes and adjacent to creek channels were identified as potentially vulnerable to rock fall, flooding, and debris flows.

## Potential Emergency Protective Measures

- Red Mountain Reservoir: Erosion control and sediment catchment/diversion measures, dedicated crews to monitor and maintain drainage structures and channel free of debris before, during, and after rainstorm events.
- Inspection of facilities and removal of hazardous materials at burned chlorine stations, mobile homes, and other structures is needed.
- Early warning system and/or reverse 911 are needed to alert residents of identified structures at risk of impending high flows. Professionally designed debris flow control structures may be helpful in some cases.
- State Highway 15: California Department of Transportation has installed erosion control on burned slopes within the highway easement. Ongoing clearing of highway culverts before, during, and following rainfall events, and recognition of potential hazards to the public and a highway closure plan are needed.
- County Roadways: Install erosion control, rock fall, and flood flow control devices as needed. Maintain culverts free of debris.

## *Santa Margarita River/Sandia Canyon*

### Background

- A number of residences are located on slopes subject to erosion and in drainages below steep, burned slopes.
- Rainbow Creek is a Total Maximum Daily Load watershed listed as impaired by U.S. EPA under Section 303(d) of the Clean Water Act.

### Analysis

- Residences located on slopes subject to erosion may have their foundations undermined by erosion caused by excess runoff on denuded slopes. Residences located in drainages below steep, burned slopes may be at risk from flooding and mud slides.
- Rainbow Creek watershed is of particular concern due to runoff containing ash and sediment/nutrients from burned areas.

### Potential Emergency Protective Measures

- Erosion control measures and diversion of excess runoff, as well as professionally designed earth retention structures may reduce the risk to life and property.
- To facilitate watershed recovery, areas that were identified as severely burned should be monitored and adaptively managed to ensure native plant regeneration.

**Table 1 – Possible Funding Sources**

| Yes | No | Funding Sources |
|---|---|---|
| X | | California Disaster Assistance Act |
| X | | FEMA Public Assistance (PA) Program |
| X | | Natural Resource Conservation Service (NRCS) |
| X | | Federal Highway Works Administration (FHWA) |
| | X | U.S. Army Corps of Engineers |
| | X | Department of Interior (DOI) |
| X | | Insurance |
| | X | Other funding: |

## Appendices

Appendix A – Environmental Permitting Requirements
Appendix B – Archaeological
Appendix C – Descriptions of State and Federal Program Funding
Appendix D – Biological
Appendix – Preliminary Suggested Projects

**Total Pop.**
**13,357**

# Rice Post-Fire Hazard Awareness Map

**FEMA DR-1731-CA**
**DO NOT DISTRIBUTE - FIUO**

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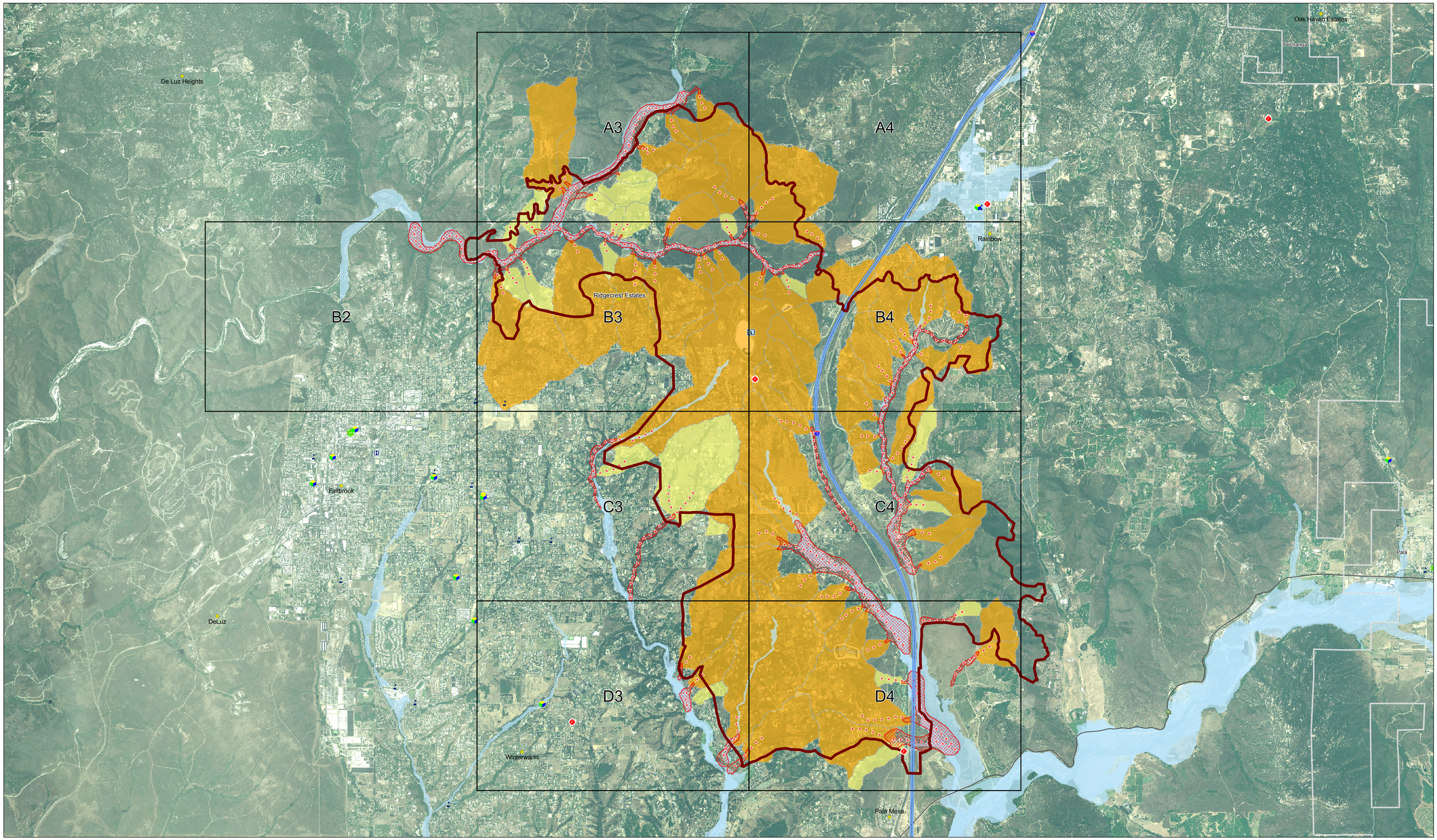


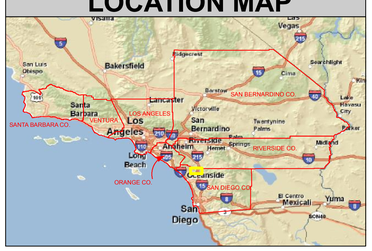

## LEGEND

- Daycare Facilities
- Populated Places
- Hospital
- School
- Fire Station
- Police
- Dam
- Rice Debris Flow Lines
- Tribal Lands
- FEMA Flood Hazard Areas
- Fire Perimeters
- FEMA Potential Debris Flow Risk Areas

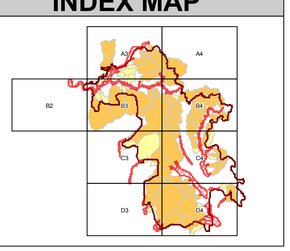
**USGS Potential Debris Volume**

- 1 - 1,000 cubic meters of material
- 1,001 to 10,000 cubic meters of material

## LOCATION MAP




## INDEX MAP

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0 0.5 1 2 Miles

Department of Homeland Security
Federal Emergency Management Agency
Date Created: 11/29/07
Author: MASG - Colton
Version: V 1.0

**MAP DISCLAIMER**



MAPS FOR ADVISORY PURPOSES ONLY. NOT FOR INSURANCE RATING PURPOSES. For insurance rating purposes, please refer to the Flood Insurance Rate Map currently in effect.
Debris flow information is PRELIMINARY. Debris flow volumes calculated in response to a 10 year recurrence based on 3 hour duration storm producing 1.75 inches of rainfall.
Volumes based on a model currently being tested. Debris flow behavior is highly unpredictable and this map shows the best available information at the time of printing.
Populations estimated using 2000 Census data and are calculated for those areas only within grid index.

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